patients with new neurologic complaints and reactive serum FTA-ABS tests is an inexact and possibly erroneous approach, leading to the inclusion of patients who once had syphilis but now have nonsyphilitic symptoms.

Unless a patient has a positive (CSF) cerebrospinal fluid-VDRL or undergoes clear clinical resolution following treatment with a decline in the VDRL titer, it is difficult to make a definite diagnosis of neurosyphilis. We applied these criteria to our case of isolated oculomotor paralysis.[3] However, as Dr. Hotson notes, the CSF-VDRL may be negative in up to 60 percent of patients and is not a reliable screening test. Other available "diagnostic" tests for neurosyphilis also have strict limitations. The CSF-FTA is a controversial procedure and its interpretation remains in doubt, making it an unsuitable test for neurosyphilis. CSF pleocytosis may be present in a variety of central nervous system disorders, such as cerebral infarction, vasculitis and multiple sclerosis. It is, therefore, of little use in diagnosing neurosyphilis, although it may be helpful in following the response to treatment. Support for a diagnosis of neurosyphilis can be gained when there is an elevation of the CSF gamma globulin above 13 percent of the total CSF protein. This occurs in 70 percent of cases. The presence of oligoclonal bands on agarose gel electrophoresis of the CSF is also helpful. But these findings do not exclude multiple sclerosis, vasculitis and chronic nonsyphilitic infections. Penicillin-induced reversal of signs and symptoms is a helpful diagnostic observation, but care must be taken not to attribute spontaneous improvement or stabilization (which often occurs in neurologic disease) to coincidental antibiotic administration. CSF pleocytosis within three weeks of penicillin treatment was used by Hooshmand and co-workers[2] and recommended by Dr. Hotson as supporting the diagnosis of neurosyphilis. Given the variability of lymphocyte counts from lumbar spinal fluid and the likelihood of spontaneous change in any meningeal process, I suggest caution in interpreting this particular guideline. Nor is the clinician's failure to identify an alternate diagnosis sufficient grounds for a diagnosis of neurosyphilis "by exclusion." In summary, no single or combined clinical or laboratory method(s) can establish with certainty the diagnosis of active neurosyphilis in most of the "modified" cases reported. In many of these reports, the diagnosis has been made by inference, based upon a serum FTA-ABS test and new neurologic signs. Hard data have been insufficient or lacking.

If, as Dr. Hotson suggests, high doses of intravenously administered penicillin is the treatment of choice for neurosyphilis, admitting the patient to hospital will be required, increasing the cost of therapy to the patient and to the medical establishment, as well as causing the patient loss of valuable time from work and family. With these issues at stake, accurate diagnosis becomes even more imperative.

In our laboratory we are exploring the use of the rabbit infectivity test to diagnose neurosyphilis. This is an unambiguous, highly specific technique for recovering pathogenic *Treponema pallidum* from body tissue. Using spinal fluid from patients with suspected neurosyphilis, we have resurrected this method from the preantibiotic era and modified it to make it highly sensitive and clinically applicable.[4] Time will tell if this approach will help us break through the circular reasoning that has so far impeded analysis of the serological and clinical profile of modern neurosyphilis.

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The First Devil of Nutrition Cultism

TO THE EDITOR: We appreciate the journal's publication of Dr. Victor Herbert's good article on nutritional cultism.[1] Especially interesting was his labeling Satan as the first nutritional cultist; this helps connect religion and medicine at their roots. Since Indian philosophy says God and time are the same, long-term scientific observations may be more sacred than we suspect.

Indeed, God (time) has been thought to speak to man in three ways: (1) *scripture,* (2) *nature,* (3) the *divine imprint* on man.[2] Let us use these tools to see if we can tentatively identify "the apple" Eve ate and then gave Adam.

First, *scripture* (cultural fossils from early man's observation of nature) says this apple was so important that it caused man's fall from health to illness.[3] Second, scripture gives statements that may

allow us to pin down the apple's identity: (1) Before its use, man ate from garden trees (woody plants)[4]; afterward he ate from field herbs (nonwoody plants).[5] (2) Before its use earth was fertile; afterward it was not ("cursed is the ground because of you").[6] (3) After its use women had trouble raising children ("in sorrow thou shalt bring forth children").[7] (4) And although man was clearly warned away from this "tree" its fruit was pleasant and enticing.[8]

Next, let us use science to examine *nature:* (1) Field plants (grains, tubers) are starchy, and because starch is not bioavailable to humans without cooking (personal communication: July 11, 1977, John Yudkin, MB), by the time they were eating field herbs people must have been using thermal heat to prepare food. (2) When experimental animals were fed a cooked diet compared with an uncooked one of the same composition their manure decreased in fertility about 80 percent.[9] As humans have adopted the practice of letting land lie fallow at intervals or moving when land wore out, we may assume that manure from humans eating cooked food is not optimally fertile.[10] (3) Offspring born to experimental animals eating cooked food were sickly, hard to raise and often died compared with healthy offspring born to those eating the same diet uncooked.[9]

Finally, the *divine imprint* on man (innate-behavior-releasing mechanisms) shows that *visiting a burn ward or shouting "fire!" in a crowded theater* elicits negative human responses. And though humans are thus warned away from fire, we find food prepared with "burning" (thermal) fire, as contrasted with "living" (ambient and metabolic) fire, smells and tastes good.

Therefore, we may tentatively conclude that the apple that "the first demagogue of nutrition cultism," Satan, induced the first men and women to eat is cooked food. If so, we are almost all nutritional cultists by time's standard, as we continue to eat this tree's (wood fire's) apple. And since humans are still following the original demagogue of nutrition cultism, should we not be patient towards those who espouse nutritional ideas with which we disagree? Sometimes we may find a useful idea among the dross—for example, Dr. Withering and digitalis.

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Pancreatic Exocrine Function Testing

TO THE EDITOR: In his article "Pancreatic Exocrine Function Testing" in the November issue,[1] Goff concludes that serum enzyme levels are not of great value as a means of diagnosing pancreatic exocrine insufficiency. While I would agree with this conclusion, I would differ with the reason cited with respect to isoamylase analysis. Goff states that the lack of clinical usefulness of this measurement is "the difficulty in distinguishing pancreatic from salivary amylase." On the contrary, this distinction can readily be made by several well-established technical methods.[2] The deficiency attaching to assay of pancreatic-type (P-type) isoamylase as an index of pancreatic insufficiency lies rather in the fact that abnormally low values for P-type isoamylase in the serum and urine of patients with pancreatic exocrine insufficiency confirmed by the secretin test occur infrequently.[3]

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Altitude Exposure in Sickle Cell Disease

TO THE EDITOR: In regard to the article "Risk of Altitude Exposure in Sickle Cell Disease" by Claster, Bodwin and Embury in the November issue,[1] it is interesting to see that a restrospective study finds that there is an increased incidence of vaso-occlusive crisis during exposure to altitude above 4,000 feet in patients with sickle cell disease. It is, of course, not surprising that the incidence of such painful episodes was greater for those who spent their time visiting the mountains than for